

**REMARKS**

After entry of this Amendment, Claims 1-15 will be all the claims pending in the application. Claim 5 has been amended to depend on Claim 1.

No new matter is added by this Amendment, and Applicants respectfully request entry of the Amendment.

**Claim Rejections**

(A) On page 2 of the Office Action, Claims 1-3, 5-13 and 15 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over Kasuga et al. (American Chemical Society, 1998). Applicants respectfully traverse the rejection for the following reasons.

Applicants respectfully submit that Kasuga et al. (American Chemical Society, 1998) do not disclose a titania nanotube having a length of 1  $\mu\text{m}$  or more, as recited by the present claims. Specifically, at page 3160, column 1, Kasuga et al. (American Chemical Society, 1998) references Nakamura et al. (J. Am. Chem. Soc., 1995), attached hereto. Nakamura et al. discloses silica gel nanotubes obtained by the sol-gel method, but fails to disclose a titania and its production method.

Thus, the meaning of the aspect ratio defined in Kasuga et al. (American Chemical Society, 1998) is not clear, and a length of the nanotube is not identified.

Accordingly, the present invention recited in Claims 1 and 5, including a titania nanotube having a length of 1  $\mu\text{m}$  or more, is novel and non-obvious over Kasuga et al. (American Chemical Society, 1998), and further, Claims 2-3, 6-13 and 15 are believed to be patentable by virtue of their dependency from Claims 1 and 5, respectively.

Withdrawal of the rejection is respectfully requested.

(B) On page 3 of the Office Action, Claims 4 and 14 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kasuga et al. (American Chemical Society, 1998) in view of Grimes (Sensors, February 2003). Applicants respectfully traverse the rejection for the following reason.

Applicants respectfully submit that Grimes does not make up for the deficiencies of Kasuga et al. (American Chemical Society, 1998) with respect to present Claim 1, as discussed above, and thus, a *prima facie* case of obviousness has not been made because the cited references do not teach or suggest each and every element of the claimed invention.

Withdrawal of the rejection is respectfully requested.

(C) On page 3 of the Office Action, Claims 1-2, 5, and 8-11 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by, or in the alternative, under 35 U.S.C. § 103(a), as allegedly being obvious over Kasuga (Adv. Mater, 1999). Applicants respectfully traverse the rejection for the following reasons.

Applicants respectfully submit that the Office Action indicates that Kasuga et al. (Adv. Mater, 1999) discloses titania nanotubes having a diameter of 8 nm and a length of 100 nm.

However, the claimed nanotube has a length of 1  $\mu\text{m}$ , ten (10) times longer than the titania nanotubes of Kasuga et al. (Adv. Mater, 1999).

Accordingly, the present invention recited in Claims 1 and 5, including a titania nanotube having a length of 1  $\mu\text{m}$  or more, is novel and non-obvious over Kasuga et al. (Adv. Mater, 1999), and further, Claims 2 and 8-11 are believed to be patentable by virtue of their dependency from Claims 1 and 5, respectively.

Withdrawal of the rejection is respectfully requested.

(D) On page 4 of the Office Action, Claims 3-4, 6-7, and 14-15 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kasuga et al. (Adv. Mater, 1999) in view of Grimes (Sensors, February 2003). Applicants respectfully traverse the rejection for the following reasons.


Applicants respectfully submit that Grimes does not make up for the deficiencies of Kasuga et al. (Adv. Mater, 1999) with respect to present Claims 1 and 5, as discussed above, and thus, a *prima facie* case of obviousness has not been made because the cited references do not teach or suggest each and every element of the claimed invention.

Withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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